1. Individual Professional Development Plan:
2. Curricular Alignment
3. Linkage of GLEs to Instructional Tasks
4. School Classroom Assessments
5. Group Professional Development Plan

**Individual Professional Development Plan:**

The goal of my Professional Development Plan is to identify and implement essential teaching strategies in the Providence School’s elementary math classes, specifically related to the content and processes in the Rhode Island Grade Level Standard M(N&O)-2-5, to ultimately improve student achievement in this area. I will research Robert Marzano’s *High-Yield Instructional Strategies* as described in his book titled Classroom Instruction that Works ~ Research Strategies for Increasing Student Achievement (2001). “The primary goal of the McREL study was to identify those instructional strategies that have a high probability of enhancing student achievement for all students in all subjects at all grade levels “ (Marzano, 2001) Based on this research, nine categories of strategies were identified as having the greatest positive effect on student achievement. These instructional strategies are tools that may be used by teachers. It is important to note that all of the strategies are effective in all situations. My goal is to identify the most effective strategies and embed them into lessons addressing the targeted skill and concept.

To decrease the gap in prerequisite skills, I also plan to identify ways in which the content in M(N&O)-2-5 can be embedded throughout the school year and prepare short targeted intervention lessons that can be delivered without compromising the integrity of the Guaranteed and Viable Curriculum.

The revision work the Math Intervention Specialists and I are doing with the Dana Center includes appropriately embedding targeted high yield strategies into the Providence School’s Math Curriculum Framework to be implemented into year two of implementation. Training for the effective use of the strategies has begun in the Elementary Math Department. Teachers will be provided with Professional Development in this area in preparation for the 2010-2011 academic year. It will be imperative that a supportive environment is created; these high yield teaching strategies may be “first order” changes for some, and “second order” changes for others.

Not all change affects people the same way. For some, this change in teaching strategies will be experienced as a “first order” change, and for others it will be a “second order” change. To be an effective leader, it is important to be cognizant of this. “In addition to focusing leadership efforts on school and classroom practices associated with improved student achievement, leaders must also tailor their own leadership practices based on the magnitude or “order” of change they are leading (Waters, Marzano, McNulty, 2003).

**Curricular Alignment and Linkage of GLEs to Instructional Tasks:**

M(N&O)-2-5 is listed in the Grade 2 Math Curriculum Framework Document two times. During Quarter 2, the first unit is titled “Counting Collections of Coins Greater than One Dollar.” This is Topic 5 in the enVision resource (Unit 2.1, enVision Topic 5). The Curriculum Framework allots ten days to this unit. This content is also touched upon in the first unit of Quarter 3 (Unit 3.1, enVIsion Topic 10). Although 9 days are allotted to this unit, only two lessons include content related to the standard. A total of 11 lessons are designated in the curriculum that addresses this standard. In the elementary classroom, 75 documented minutes are dedicated to mathematics instruction. How can we expect students to become proficient in this limited time? Students need time to engage in developmental, reinforcement and practice/drill activities in order for students to reach proficiency in any skill. An analysis of the district NECAP data illustrates the lack of proficiency we are facing (see below).

The Providence School District is currently in its first year of implementation of the Math Curriculum Framework. Listed below are the learning objectives cited in the curriculum framework which address M(N&O)-2-5.

Students will be able to:

* Determine the value of different combinations of pennies, nickels, and dimes
* Determine the value of a collection of coins that includes half dollars, quarters, dimes, nickels, and pennies.
* Show the same amount of money using different sets of coins.
* Count money amounts greater than one dollar and write the amount with a dollar sign and a decimal point.
* Make an organized list to find different combinations of coins.
* Make change from exactly $1.00.
* Use counting techniques to solve problems involving combinations.
* Subtract using two-digit coin amounts.
* Solve problems involving adding and subtracting money by using the try, check, and revise strategy.

In addition, there are also several *Essential Questions* that students should be able to answer at the end of this learning. These essential questions provide the opportunity for students to explaining their understanding of the essential concepts.

The classroom routine prescribed in the curriculum framework for unit 2.1 is linked to the learning objectives in this unit: It is suggested that coin combinations be used in generating equivalent expressions in Today’s Number. (more information needed: Routine and GLE)

**Purpose Statement:**

The Grade Level Expectations (GLEs) describe expectations for the end of the grade identified or the beginning of the next grade. Therefore, the essential understanding of the content and processes are to be realized by the end of the identified grade. This understanding is assessed at the state level at the beginning of the next academic school year.

The Providence School District NECAP data illustrates that grade 2 student’s lack proficiency in the following standard:

M(N&O)–2–5 **Demonstrates understanding of monetary value** by adding coins together to a value no greater than $1.99 and representing the result in dollar notation; making change from $1.00 or less, or recognizing equivalent coin representations of the same value (values up to $1.99). (State)

According to the district level data, an average XXXXX of the students responded to discrete multiple choice questions addressing M(N&O)-5-2 on the Math NECAP Assessment…. Complete Data section

Proficiency in this area is Important because: See NCTM, focal points/ link to data section

[**http://www.nctm.org/standards/content.aspx?id=270**](http://www.nctm.org/standards/content.aspx?id=270)

**NECAP Data: finish this**

The table below presents NECAP data for the four academic schools years that the NECAP Assessment has been administered.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | M(N&O)-2-5 | % students who answered correctly | | Number and Operations  % proficient | |
| Released item | District | State | District | State |
| 2005-2006 |  |  |  |  |  |
| 2006-2007 | 5 | 35% | 49% |  |  |
| 2007-2008 |  |  |  |  |  |
| 2008-2009 | 6 | 35% | 47% |  |  |
| 7 | 37% | 49% |  |  |

**See RIDE for other GLEs that address M(N&O)-2-5**

**Purpose of the Number and Operations Strand (RI GLE Document, 2007):**

The GLE Document provides the purpose of each of the four strands of mathematics (Number and Operations; Geometry and Measurement; Functions and Algebra; Data, Statistics, and Probability). Included in this rationale is the importance of describing and interpreting real-world phenomena. Students must demonstrate their understanding of monetary value as stated in M(N&O)-2-5, if they are to be contributing members of our global economy.

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| --- |
| Numbers and operations remain a cornerstone for the study of mathematics in grades K – 12. Students use numbers to quantify sets, identify location, measure, quantify the probability of an event, analyze data, and describe and interpret real-world phenomena. Having students know basic facts and having students compute fluently (i.e., accurately and efficiently) continues to be an important goal in mathematics education. However, knowing basic facts should be incorporated into a rich mathematics curriculum that builds conceptual understanding of these facts.  Through the school years, the amount of time spent on numbers and their operations will decrease and the types of numbers studied will change. As students progress through the elementary grades and into middle school, they will need to develop an in-depth conceptual understanding of fractions, decimals, and percents prior to doing algorithmic computations with these numbers.  Conceptual development of integers and meaningful computation with them are also goals for middle grade students. The study of irrational numbers and the real number system will begin in eighth grade and continue through high school. Imaginary and complex numbers are introduced in advanced mathematics. It is important for students to model and represent the different types of numbers they study.  Students cannot appreciate the power of numbers unless they also understand the operations upon those numbers. Students need to recognize which operation to apply to a given problem situation they encounter. They need to know what effect the various operations will have on different types of numbers. They need to know the relationships among the operations and among the operations and their properties. A deep understanding of the operations and their properties will help students make sense of computation algorithms and lead to fluency in computation. A firm understanding of numbers as well as operations and their properties will provide a good foundation for the study of algebra. |

**Assessment: (Under construction)**

* Diagnostic and Intervention System (enVision)
* Formative and summative assessment
* SMART Goals?
* Include Challenging Goals (embed with Learning Objectives) and effective feedback (Marzano)

**High Yield Strategies (Under Construction)**

* Detailed explanation of targeted strategies
* Targeted Intervention lessons with embedded high yield strategies

# Understanding and Using the Curriculum Framework

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| **Standards for Grade/Course**  **Grade 1** | **Standards for Grade/Course**  **Grade 2** | **Standards for Grade/Course**  **Grade 3** |
| M(N&O)–1–5 **Demonstrates understanding of monetary value by** knowing the names and values for coins (penny, nickel, dime, and quarter); and by adding collections of like coins together to a sum no greater than $1.00. (Local) | M(N&O)–2–5 **Demonstrates understanding of monetary value** by adding coins together to a value no greater than $1.99 and representing the result in dollar notation; making change from $1.00 or less, or recognizing equivalent coin representations of the same value (values up to $1.99). (State | M(N&O)–3–5 No GLE at this grade |

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| --- | --- |
| **Changes** | **Changes** |
| **Added:**   * Adding coins (varied values) no greater than $1.99 * Representing values of money in dollar notation * Making change from $1.00 or less * Recognizing equivalent coin representations of the same value (values of up to $1.99)   **Dropped:**   * Knowing the names and values of coins (penny, nickel, dime, quarter) * Adding like-valued coins together to a sum no greater than $1,00   **Stays the Same:**   * Demonstrates understanding of monetary value * Adding coins together | **Added:**   * N/A   **Dropped**:   * All   **Stays the Same:**   * All content can now be applied to current learning across standards |
| **Important Findings (Notes, Clarifications, and Prerequisites)** | | | |
| During grade 2: ,   * all skills and processes from grade 1 may be addresses at level 3, drill and practice * Because the skills and processes in grade 2 are all dropped in grade 3, it is imperative that instruction moves through all three levels of instruction. All levels must address problem solving at the appropriate level. Appropriate processes from each level of instruction will be determined based on the specific content addressed and the learning styles of the students.   Levels of Instruction: (add details here) Level 1: Provide developmental activitiesLevel 2: Provide reinforcement activitiesLevel 3: Provide drill-and-practice activities From Units 2.1 and 3.1  New to grade 2, students will learn counting techniques to solve problems involving combinations using a variety of strategies (e.g., “How many ways can you make 50 cents using a variety of coins?”), in grade 1, students added collections of like coins (penny, nickel, dime, quarter) up to $1.00. Students will continue developing this skill up to $1.99 and will make change from $1.00.  In grade 2, students will recognize equivalent coin representations of the same value up to $1.99 (penny, nickel, dime, quarter, half-dollar and one-dollar coins). The ability to recognize images of both heads and tails of each coin is imperative. | | | |

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| **Implications for Instruction and Assessment (Learning Objectives)** |
| Content/Processes and learning objectives |

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| **Planning (Connections to Resources and Materials)** |
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